

Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

LEAP-SH-SW-MEHE- Batch 2

Lot 2

Tripoli Package

Volume 3

Bill of Quantities

Preamble

Item	Description
1	<u>INTRODUCTION</u>
1.01	The rules contained in this Preamble apply equally to both proposed and executed works.
1.02	The Bills of Quantities are to be read and construed in association with the Drawings, the Specification and this Preamble. Information which is given on the Drawings and/or in the Specification is identified by cross references included in the descriptions of work in the Bill of Quantities.
1.03	Where work cannot be fully described or where the quantity of work required cannot be accurately determined, it is given as an item or a Provisional Sum.
1.04	Unless the term meter, used in this Preamble, is preceded by the words square or cubic it is deemed to be linear.
1.05	The rates inserted by the Tenderer in the Bill of Quantities shall be in words and figures. In the case of discrepancy between the two, the rates written in words shall govern.
1.06	The type of contract is Lump Sum.
2	<u>QUANTITIES</u>
2.01	Quantities set out in the Bills of Quantities are the estimated quantities and they shall not be taken as the actual and correct quantities for ordering and purchasing of materials
2.02	Works shall be measured net as fixed in position in accordance with the rules contained in this preamble or except where otherwise stated in a measurement rule applicable to the work.
2.03	Dimensions used in calculating quantities are taken to the nearest integer (0.5 and over is regarded as 1 and less than 0.5 is disregarded).
2.04	Quantities measured in tonnes are given to two places of decimals. Quantities measured in other units of mass are given to the nearest whole unit except that any quantity less than one unit is given as one unit.
2.05	Unless otherwise stated, where minimum deductions for voids are dealt with in this Preamble they refer only to openings which are within the boundaries of measured areas. Openings which are at the boundaries of measured areas are always deducted irrespective of size.

Item	Description
3	<u>DESCRIPTIONS</u>
3.01	Headings to groups of items in the Bill of Quantities are to be read as part of the descriptions of the items to which the headings apply.
3.02	Dimensions are stated in descriptions generally in the sequence, length, width, height. Where ambiguity could arise, the dimensions are identified.
3.03	Dimensions given in descriptions are in millimeters unless otherwise indicated.
3.04	Unless otherwise specifically stated in the Bill of Quantities or herein, the following are deemed to be included in all work: - labor and all costs in construction therewith, - materials, products, goods and all costs in connection therewith, - Contractor's equipment, including but not limited to construction plant, scaffolding, tools, vehicles and the like and all costs in connection therewith, - assembling, fitting and fixing materials, products and goods in position, - any method of fixing, fixing to any nature of base or background including preparation and providing fixing materials, - breaking down for transport and installation and subsequent reassembly of composite items manufactured off site, - waste of materials, - square, raking and curved cutting, - work at any location or height, - work in small, isolated quantities, - protection of all work,

Item	Description
	- protection of all existing structures, utilities, site improvements, trees and vegetation, features, pavements and other facilities on and adjacent to the site, which are to remain upon completion of the work, - all other enabling tasks associated and subsidiary components and items of work which are indicated or reasonably inferred from the Drawings and/ or Specification and necessary to perform and complete the work described, - establishment and overhead charges and profit.
3.05	Except where items are included in the Bill of Quantities and are priced separately by the Contractor therein, provision of the following are deemed to be included with all work: - site administration and security, - insurances, - bonds and guarantees, - water for the Works, - lighting and power for the Works, - temporary accommodation for the use of the Contractor and the Engineer, - temporary telephones and the cost of calls for the use of the Contractor and the Engineer, - temporary roads, hardstandings, crossings and the like, - temporary fencing, hoardings, screens, fans, footways, guardrails, gantries and the like, - giving notices and making applications, including the payment of fees and charges in connection therewith, - safety, health and welfare of workpeople, - compliance with traffic regulations - maintenance of public and private roads, services and adjoining property,

Item	Description
	- control of noise and pollution, prevention of fire and compliance with all other statutory and general obligations, - removing rubbish, protective casings and coverings, and cleaning the Works on completion, - drying the Works, - testing and commissioning of service installations including the provision of fuel, - samples of materials and testing of materials including providing equipment for testing, - design, co- ordination, installation and as- built record drawings and the like, - preparation and submittal of reports, records, certificates, notices, proposals, designs, details, calculations and other information and data required by the Specification, - allow in unit rates for all other requirements, services, provisions, liabilities and obligations contained in the General Requirements and Conditions of Contract. - Maintaining, adapting, clearing away and making good are deemed to be included with the items for temporary works. - Payment of any customs and other import duties, harbor and port dues, wharf age, landing, pilotage and any other charges or dues including demurrage charges on any Goods or other things required for or in connection with the Works entering or leaving the country. - A clear clause needs to be added stating that the Specifications provided as part of the Tender Documents may not be followed in case there is need to install \ replace similar items to the existing items on site.

Item	Description
4	<u>SYMBOLS, ABBREVIATIONS & DEFINITIONS</u>
4.01	The following symbols and abbreviations are used in this Preamble and in the Bills of Quantities: Lump Sum LS Linear Meter m Square Meter m² Cubic Meter m³ Centimeter cm Millimeter mm Number No Kilogramme kg Tonne T Percentage % Nominal Diameter Φ Quantity Qty Drawing Drg / Dwg Mega Pascal MPa
4.02	The following definitions apply to all work: - 'horizontal' means level or sloping work not exceeding 15° from the horizontal - 'sloping' means sloping work exceeding 15° but not exceeding 80° to the horizontal, - 'vertical' means work exceeding 80° from the horizontal, - 'curved' means curved in any direction or in more than one direction and to any radius or radii and includes curved work to domes, vaults and the like.
4.03	The term 'extra over' means that work so described involves extra cost over the basic work in which it occurs. No deduction of the quantity of basic work is made for the extra over work.

Item	Description
5	<u>MECHANICAL ENGINEERING SERVICES PREAMBLE</u>
5.01	Mechanical equipment has been measured in complete items unless otherwise stated in the specification and bill item. The rates for all items shall include for supplying all materials, fixing, terminating and connecting all accessories and components for a complete and functional item.
5.02	The Contractor shall consult the relevant sections of the specification when query or doubt arise.
5.03	The Contractor shall consult with, and employ specialist sub-contractors for specific items of work as identified in the specification. All costs associated with such works shall be included in the tender. Specialist sub-contractors will be of recognized expertise, acceptable to the engineer.
5.04	All items of mechanical plant shall be connected to the control and power systems by wiring out from the mechanical control centers. All wiring shall be carried out by competent and qualified electricians under the mechanical scope of works.
5.05	Rates/prices entered against the items shall include for all costs in connection with the following:
a.	Connection items of plant and equipment as necessary to the control and power systems.
b.	Provision of starter's, protective devices, automatic change over/load shedding facilities, remote & local isolation/emergency shut off as appropriate, control functions and alarms to achieve the intent outlined in the Control Section of the Specification. All motors to be of the 'Low Energy' type as specified.
c.	Off loading, storing, connecting up, protecting as necessary, testing, flushing, cleaning, charging, balancing, commissioning and testing individual items of plant as well as complete systems installations all as specified & directed by Engineer.
d.	Supports, brackets and fixings of every description required to complete the works.
e.	Cutting or forming all holes, mortises, chases and the like in the structure to facilitate the various works and making good in all trades as necessary;
f.	Coordination with other associated trades, designers and specialists, at the time preparing shop drawings and during the works progress.
g.	Cost of the items in the BOQ includes all works, materials and labors of all items mentioned above.

Item	Description
6	<u>ELECTRICAL ENGINEERING SERVICES PREAMBLE</u>
6.01	Rates for all items of equipment and materials shall be inclusive of all labor, electric power during installation and testing oxygen, acetylene, water, transport, rigging, temporary works, stores, offices, instruments insurance, customs, duties, overhead, profit certificates, samples, tests, supply of all information and data, supply of catalogues, charts, curves, submittals, certified drawings and all other information and services called for in the specification, all fully connected up and good working order. Rates shall also include for:
a.	All builders work in connection with fixing of supports brackets, clips as required
b.	Cutting or forming all openings, mortises, chases, etc., in floors, walls and ceiling required for the installation and making good after
c.	Construction of manholes, handholes and the like
d.	Fitting of access doors in walls and ceilings.
e.	Supplying and fixing supports, brackets and clips as required.
f.	Cutting away and making good after all trades for frames, sleeves, cables, cable trays, chases for conduits and fixing of electrical boxes, conduits, accessories.
g.	Excavating and back filling trenches for cables, pipes and providing and laying precast concrete protective tiles.
h.	Repair, repaint and generally make good and leave in perfect condition all the work executed by him under the contract.
I.	All other work in connection with the installation that is not measured separately.
j.	Electrical equipment is enumerated unless otherwise stated and the rates shall include for supplying all materials labor, plant, fixing, terminating and connecting accessories, etc.
k.	Feeder cables are measured in linear meters from the boards to equipment, or from the distribution board to sub-main, etc. Rates shall include for the supply of materials, laying, terminating, trenching, cable trays, ducting, etc.

Item	Description
l.	Lighting points are enumerated and the rates shall include all necessary wires, conduits, boxes and accessories, etc., required to provide power from the LP boards switch panels and switches are measured separately.
m.	Lighting fittings are enumerated and the rates shall include the supply, installation and connections.
n.	Disconnecting/Isolating switches are enumerated and the rates shall include all necessary wires, conduits, boxes etc. If the switches are fed by cables, then the cables are measured separately.
o.	Lighting switches, sockets, fan/coil unit spur boxes, fused spurs for fans, kitchen, laundry equipment outlets, toilet fans points are enumerated and the rates for each shall include all wiring, conduits, accessories etc.
p.	Earthing systems to include for all materials, labor, fixing, terminating, earth pits, rods, conductors, excavations.
q.	Main distribution board, sub-mains, lighting and power panels, panel boards, etc., are enumerated items and rates shall include all the board installed completely as specified and as shown on the drawings. (cables are measured separately)
r.	End of session bell system is one item. Bells and bell push button, are enumerated and include all conducting, wiring, controls, and all necessary accessories.
s.	Lightning protection system, roof conductors, tie conductors down conductors are measured in linear meters completely installed.
t.	Earth pits are enumerated. The cost shall include all materials, wiring, fixing, supports, etc., and bolting copper conductors to rebars to have a complete working system.
u.	The rates for automatic transfer switches include the switches completely installed with all ancillary equipment, control, modules to have a complete working system.
v.	Cost of the items in the BOQ includes all works, materials and labors of all items mentioned above.

End of Preamble

General Requirments

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
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Notes

These General Requirements are applicable to the whole of the Works.

If the Tenderer wishes to price any of the items contained herein, then each such item, clause, or sub-clause must be individually priced.

The Tenderer shall not enter lump sums covering more than one or all items, clauses and sub-clauses.

If the General Requirements item has not been priced it will be deemed that the value of such item, clause or sub-clause is included in the rates for measured items elsewhere in the Bill of Quantities.

1 Preliminaries

1.01 Insurance

Provide the following insurances from an approved insurance company, all as detailed in the Conditions of Contract.

- Professional Indemnity Insurance.
- Contractor's All Risk Insurance.
- Plant and Equipment Insurance.
- Workmen Compensation Insurance.
- Third Party Insurance.

LS

Lump Sum in Words:

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1.02 Programme of Works

Prepare and submit to the Engineer for approval a detailed Programme for the construction showing the proposed order & method to execute the Works, the dates upon which the various elements, trades, sections and items of Works will be started and completed, and the cash flow estimate, complete including monthly forty-five day program, all necessary revisions and updates, monitoring, all supporting data, computer analysis schedules, and all other related works, all to Engineer's satisfaction.

LS

Lump Sum in Words:

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Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>Additional Items</u>				
	The Contractor shall list below any Additional Items that he considers to be of value and for which he wishes to include in his Tender, and shall include details of quantities and rates accordingly.				
2.01		LS			
	<u>Lump Sum in Words:</u>				
2.02		LS			
	<u>Lump Sum in Words:</u>				
2.03		LS			
	<u>Lump Sum in Words:</u>				
2.04		LS			
	<u>Lump Sum in Words:</u>				
2.05		LS			
	<u>Lump Sum in Words:</u>				

TRIPOLI & NORTH LEBANON SCHOOLS
GENERAL INDEX

No.	SCHOOL NAME	
1	356	AL Fadila girls (الفضيلة الرسمية للبنات)
2	376	AL Zahryeh Boys (الزاهرية الرسمية للبنين)
3	393	Al Nahda Mina (النهضة الرسمية للصبيان)
4	395	Boutross Dawrah (بطرس دوره للبنين)
5	400	Abi Samra first 4 girls (أبي سمراء الأولى للبنات)
6	407	AL Tadrib (التدريب التربوي الرسمية للبنات)
7	408	Ibn Khaldoun (ابن خلدون الرسمية المختلطة)
8	409	Souad Masri girls (المربية سعاد المصري للبنات الرسمية طرابلس)
9	429	Al Farabi boys (الفارابي الرسمية للصبيان)
10	448	George Sarraf (ثانوية جورج صراف الرسمية)
11	697	Daher Al Ein mixed (ضهر العين الرسمية المختلطة)
12	704	Jebran Makari Anfeh (جبران مكاري الرسمية)
13	725	Kferaaka mixed (مدرسة كفر عكا الأولى المختلطة الرسمية)
14	730	Kferhata (ثانوية كفر حاتا الرسمية)
15	748	Chekka (مدرسة شكا المتوسطة الرسمية)
16	752	AL Heri (الهرري المختلطة الرسمية)
17	755	Al Batroun for girls (البترون الرسمية للبنات)
18	756	Estfan Aatyah (مدرسة اسطفان عطية المتوسطة الرسمية المختلطة)
19	763	Aabrine mixed (عبرين الرسمية المختلطة)
20	764	Aabrine high school (ثانوية عبرين الرسمية)
21	1377	AL Kobbeh second (ثانوية طرابلس القبة المختلطة الثانية الرسمية)
22	1403	Wadi AL Nahlet mixed (وادي النحلة الرسمية المختلطة)
23	1521	Baddaoui girls (متوسطة البداوي الثانية الرسمية للبنات)
24	1606	Ibn Khaldoun girls (مدرسة ابن خلدون الرسمية للبنات)
25	1636	Baddaoui high school (ثانوية البداوي الرسمية للبنات)

Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

LEAP-SH-SW-MEHE- Batch 2

Lot 2

Tripoli Package

Volume 3- 1 (5 of 25 Schools)

Bill of Quantities

356 - AL Fadila Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary"

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.6	<u>Steel Stair</u> Provide Galvanized Steel Stair with related platform as per drawings. Contractor to submit complete shop drawings with related calculation for approval.				
5.6.1	<u>Rehabilitate Steel Stair</u> Rehabilitate existing steel stair and remove damaged members and replace by new works to include: - Materials similar to the existing - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply epoxy paint as per specification - All needed items as per Engineer instructions <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	№	34		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	15		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster				
	Price included all accessories, material, scaffolding and labor, etc.	m ²	20		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	950		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	550		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	4		
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	16		
	<u>Rate or Lump Sum in Words:</u>				
10.5	<u>Internal Curtains</u>				
	Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings				
	Works to include:				
	- Materials				
	- Labors				
	- Heavy Duty Accessories				
	- All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening	m²	50		
	<u>Rate or Lump Sum in Words:</u>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary"

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

5- SANITARY FIXTURES

Total Carried to Summary"

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	6		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

4- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary"

-

Summary"

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Al Fadila School	
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376- Al Zahriyeh public school

Bill of Quantities

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Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i> 	ls	1		
					<u>Carried to collection</u>

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	10		
5.2.6	Rehabilitate and paint existing steel window <i>Rate or Lump Sum in Words:</i>	Nº	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	4		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u>				
	Supply and install all timber work with all related items				
	The joinery works should be of the first class type and as per specifications and drawings				
	Work to include:				
	- Material and labors				
	- All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.)				
	- The frame for any width (Steel, Wood, etc.)				
	- Paint as follows:				
	- Anti rust layers				
	- Putty + one layer of undercoat				
	- Three layers of epoxy paint				
	- Apply and fix 6mm wired clear glass				
	- View Permitting glass opening where needed				
	- remove the existing timber panels				
	- repair the edges				
	- The Contractor should submit shop drawings				
	- All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	30		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.1.1	Rehabilitate glazed window & door panel <i>Rate or Lump Sum in Words:</i>	Nº	40		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m²	120		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	<u>New Full Mass Colored Ceramic for Floors</u> Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required				
9.2.1.1	Supply and install anti skid colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) Rate or Lump Sum in Words:	m ²	40		
9.2.1.2	Skirting same type of floors or as existing or required Rate or Lump Sum in Words:	m	20		
9.2.2	<u>New Glazed Colored Ceramic for Walls</u>				
9.2.2.1	Supply and install glazed colored ceramic for walls Include Ceramic Corner (first choice) Rate or Lump Sum in Words:	m ²	40		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	800		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	200		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i> 	Nº	4		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	No	1		
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	50		
Carried to collection					

Collection

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Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	4		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	8		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	6		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	6		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

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Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	50		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	10		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

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Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

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3- GENERAL LIGHTING INSTALLATIONS

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Total Carried to Summary

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Summary

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393-Al Nahda Mixed Public School

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Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	12		
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i>	Nº	20		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.1	<u>New Aluminum Panels (Double Glass)</u> Supply and install the fabricated aluminum panels with double glass (6 - 12 - 6 mm) (Outer Glass should be Tempered)				
8.2.1.3	Rehabilitation of existing skylights and insatallation of all missing parts <i>Rate or Lump Sum in Words:</i>	Nº	2		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows	№	35		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	1,100		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	700		
<u>Carried to collection</u>					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	№	4		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	3		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	12		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Nahda School	
 * Total Amount Carried to General Summary	
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.....	
.....	

395- Boutros Darah for Boys

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

8.1.3.1.2 Rehabilitate existing double leaf door № 4

Rate or Lump Sum in Words:

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Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	<u>New Full Mass Colored Ceramic for Floors</u> Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required				
9.2.1.1	Supply and install anti skid colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	30		
9.2.1.2	Skirting same type of floors or as existing or required <i>Rate or Lump Sum in Words:</i>	m	25		
9.2.5	<u>Rehabilitate Existing Stair Treads and Riser</u> Remove the broken treads and risers, install and supply new ones similar to the existing with the needed side bases, width as per site dimension with skirting and tiles for landing The work to be as per the Engineer instructions				
9.2.5.2	Existing Marble Stair the price including Skirting tiles & Landing <i>Rate or Lump Sum in Words:</i>	m	4		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.4	Oil Paints for old walls and ceilings	m ²	50		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	20		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

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8- SOLAR SYSTEM

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Total Carried to Summary

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Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Boutros Dawrah School	
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400- Abi Samra First School for Girls

Bill of Quantities

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Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
					<u>Carried to collection</u>

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.1.3	Rehabilitate glazed aluminum windows <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	№	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i> 	No	1		
8.2.4	<u>Colored Powder Coated Aluminum Louver</u> Fabricate, Supply and install powder coated aluminum heavy duty louver as specified and detail capable with standing the effects of wind load and deflection based on testing agency, including joint cutting, corner strengthening, support galvanized steel accessories, fixation, fasteners, hardware, trim, sealants, matric, etc. and all other related works and accessories.				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	<u>New Full Mass Colored Ceramic for Floors</u> Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required				
9.2.1.1	Supply and install anti skid colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	1		
9.2.1.2	Skirting same type of floors or as existing or required <i>Rate or Lump Sum in Words:</i>	m	1		
9.2.2	<u>New Glazed Colored Ceramic for Walls</u>				
9.2.2.1	Supply and install glazed colored ceramic for walls Include Ceramic Corner (first choice) <i>Rate or Lump Sum in Words:</i>	m ²	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.1	Super Rubber Paint for new walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	1		
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	1		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5.1.3	Oil Paint for new walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	1		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	950		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site Cost to include: - (3600mm x 1200mm) final dimensions as per site limitation - Materials and labors - Felt marker pens and eraser (12 marker pens + 2 erases for each white board) - Stainless Steel screws - Remove the existing board - All needed works as per the Engineer instructions	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
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Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	1		
<u>Carried to collection</u>					

Collection

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Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.1	<u>General Mechanical Requirements</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas				
	<i>Rate or Lump Sum in Words:</i>	LS			
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

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Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

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3- GENERAL LIGHTING INSTALLATIONS

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8- SOLAR SYSTEM

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Total Carried to Summary

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Summary

<u>Description</u>	<u>Amount (US \$)</u>
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 * Total Amount of Works for Abi Samra First School for Girls	
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Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

General Summary Volume 3-1 (5 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
الفضيلة الرسمية للبنات - 356	356 AL Fadila girls				4,270.00
الزاهرية الرسمية للبنين - 376	376 AL Zahryeh Boys				
النهضة الرسمية للصبيان - 393	393 Al Nahda Mina				
بطرس دوره للبنين - 395	395 Boutross Dawrah				
أبي سمراء الأولى للبنات - 400	400 Abi Samra first 4 girls				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 2

Tripoli Package

Volume 3- 2 (5 of 25 Schools)

Bill of Quantities

407-Al Tadrib School For Girls

Bill of Quantities

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Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
					<u>Carried to collection</u>

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	10		
5.2.6	Rehabilitate and paint existing steel window <i>Rate or Lump Sum in Words:</i>	Nº	20		
Carried to collection					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	5		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window).				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	34		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	40		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster				
	Price included all accessories, material, scaffolding and labor, etc.	m ²	120		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	950		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	550		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <u>Rate or Lump Sum in Words:</u>	Nº	4		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site Cost to include: - (3600mm x 1200mm) final dimensions as per site limitation - Materials and labors - Felt marker pens and eraser (12 marker pens + 2 erases for each white board) - Stainless Steel screws - Remove the existing board - All needed works as per the Engineer instructions	№	20		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm	№	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	50		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	6		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	50		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Al Tadrib School for Girls	
 * Total Amount Carried to General Summary	
.....	
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.....	

408 -Ibn Khaldoun Public School for Boys

Bill of Quantities

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Bill № 2: Civil and Architectural Works

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	20		
5.2.6	Rehabilitate and paint existing steel window <i>Rate or Lump Sum in Words:</i>	Nº	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	3		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	20		
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i> 	Nº	13		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	36		
8.2.1.1	Rehabilitate aluminum glazed window & door panel <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster				
	Price included all accessories, material, scaffolding and labor, etc.	m ²	100		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	650		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	300		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	4		
10.2	<u>Classroom Specialties</u>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engravement for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	Nº	1		
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	40		

Carried to collection

Collection

Page №

Amount (US \$)

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	40		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	4		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas				
	<i>Rate or Lump Sum in Words:</i>	LS			
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Ibn Khaldoun Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

409 Al-Murabbiya Souad Al-Masri Official School for Girls - Tripoli

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
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3 CONCRETE

Reinforced Existing Columns and beams

Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm² for cracked beams, repair rust steel and topping concrete.

Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions

ls 1

Rate or Lump Sum in Words:

.....

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.1.3	Rehabilitate glazed aluminum windows <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval. - Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
7.2	<u>Polyurethane Waterproofing for Wet Areas</u>				
7.2.1	Polyurethane painting waterproofing (PU) including for all preparation works and related ancillaries. - DEEP cleaning of all surfaces and carting away of dust & debris - Apply Base coat - Apply two layers of PU paint include 20cm vertical high - The work should be executed by an expert - All needed works as per the Engineer instructions	m ²	1		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	45		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster				
	Price included all accessories, material, scaffolding and labor, etc.	m ²	10		
	<u>Rate or Lump Sum in Words:</u>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	950		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
<u>Carried to collection</u>					
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	No	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include:				
	- All fixing elements				
	- All stainless steel hangers				
	- All necessary heavy duty accessories				
	- Counter edge of 30cm length				
	- All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	1		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

7- THERMAL AND MOISTURE PROTECTION

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.1	<u>General Mechanical Requirements</u>				
1.1.2	Prepare the shop drawings for all mechanical works and obtain approval from the Engineer before the start of executing any work.	Item			
	<i>Rate or Lump Sum in Words:</i>				
1.2	<u>Rehabilitation Works General Requirements</u>				
	Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
* Total Amount of Works for Al Murabbiya Souad Al- Masri School for Girls	
* Total Amount Carried to General Summary	
.....	
.....	
.....	

429- Al-Farabi Official School for Boys

Bill of Quantities

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Bill № 2: Civil and Architectural Works

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.1.3	Rehabilitate glazed aluminum windows <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	10		
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i>	Nº	12		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	70		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	30		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <u>Rate or Lump Sum in Words:</u>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <u>Rate or Lump Sum in Words:</u>	m ²	1		

Carried to collection

Collection

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Amount (US \$)

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.1	FE-01 (6Kg powder) <i>Rate or Lump Sum in Words:</i>	Nº	1		
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.1	TYPE C1: Twin T8 LED Tube, surface-mount luminaire for interior, 40W, 4000K, 4700Lm. Polycarbonate, light grey, with injected polyurethane double gasket and clear UV stabilized polycarbonate cover, $\cos \phi \geq 0.9$ <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.3	TYPE C2: as same as TYPE C1 but Pendant mounted <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.4	TYPE A2 / A3: 600x600 mm LED Panel 3600lm, 33W, 4000K, 80CRI surface-mount/recessed, die-cast aluminum, IP20 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas				
	<i>Rate or Lump Sum in Words:</i>	LS			
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Al Farabi Official School for Boys	
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448 -George Sarraf Public School

Bill of Quantities

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Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		
					Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	4		
	<i>Rate or Lump Sum in Words:</i>				
<u>Carried to collection</u>					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	№	30		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.1.4	Replace existing elements by new single glazed aluminum windows (6mm) if the quantity of broken glass does not exceed 30% of whole building <i>Rate or Lump Sum in Words:</i> 	Nº	3		
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i> 	Nº	15		
8.2.1.1	Rehabilitate aluminum glazed window & door panel <i>Rate or Lump Sum in Words:</i> 	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be lead-free and Low VOC (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	500		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	250		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	14		
	<i>Rate or Lump Sum in Words:</i>				
					
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	6		
	<i>Rate or Lump Sum in Words:</i>				
10.5	<u>Internal Curtains</u>				
	Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening	m ²	20		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

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Amount (US \$)

1-Demolishing and Removal of Debris

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	4		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	25		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- BASIC ELECTRICAL REQUIREMENTS	-
3- GENERAL LIGHTING INSTALLATIONS	-
10- LIFTS REHABILITATION	-
Total Carried to Summary	-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
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 * Total Amount of Works for George Sarraf Public School	
 * Total Amount Carried to General Summary	
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Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

General Summary Volume 3-2 (5 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
التدريب التربوي الرسمية للبنات - 407	407 AL Tadrib				
ابن خلدون الرسميه المختلطة - 408	408 Ibn Khaldoun				
المربية سعاد المصري للبنات الرسمية طرابلس - 409	409- Souad Masri girls				
الفارابي الرسمية للصبيان - 429	429 Al Farabi boys				
ثانوية جورج صراف الرسمية - 448	448 George Sarraf				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 2

Tripoli Package

Volume 3- 3 (5 of 25 Schools)

Bill of Quantities

697- Dahr El Ein Mixed Public School

Bill of Quantities

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Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc.	LS	1		
	<u>Rate or Lump Sum in Words:</u> 				

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.2.6	Rehabilitate and paint existing steel window <i>Rate or Lump Sum in Words:</i>	Nº	50		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories	Nº	43		
	<i>Rate or Lump Sum in Words:</i> 				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

9.2.1

New Full Mass Colored Ceramic for Floors

Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.1.1	Supply and install anti skid colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	10		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	1,000		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	500		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

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Amount (US \$)

1-Demolishing and Removal of Debris	
3- Concrete	
5- METAL WORKS	
8- DOORS AND WINDOWS	
9- FINISHES	
10- SPECIALTIES	
	
	
Total Carried to Summary	
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	20		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Dahr El Ein School	
 * Total Amount Carried to General Summary	
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704-Jebran Makari Public School

Bill of Quantities

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Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work</u> <u>(Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <u>Rate or Lump Sum in Words:</u>	Nº	6		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	12		
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i> 	Nº	30		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i> 	Nº	30		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	1,200		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	700		
<u>Carried to collection</u>					

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Jebran Makari School	
 * Total Amount Carried to General Summary	
.....	
.....	
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725- Kfer Aakka Mixed Public School

Bill of Quantities

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Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work</u> <u>(Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	№	24		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	40		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

9.2.1

New Full Mass Colored Ceramic for Floors

Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.1.1	Supply and install anti skid colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	5		
9.2.2	<u>New Glazed Colored Ceramic for Walls</u>				
9.2.2.1	Supply and install glazed colored ceramic for walls Include Ceramic Corner (first choice) <i>Rate or Lump Sum in Words:</i>	m ²	5		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	700		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	350		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

3- Concrete	
5- METAL WORKS	
8- DOORS AND WINDOWS	
9- FINISHES	
10- SPECIALTIES	
Total Carried to Summary	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
4- FIRE PROTECTION	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	(US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	(US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	30		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

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Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Kfaraakka School	
 * Total Amount Carried to General Summary	
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730- Kferhata Mixed Public High School

Bill of Quantities

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Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
					<u>Carried to collection</u>

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	20		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	42		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	800		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
4- FIRE PROTECTION	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	32		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Kferhata School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

748-Chekka Mixed Public School

Bill of Quantities

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Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.6	Rehabilitate and paint existing steel window <i>Rate or Lump Sum in Words:</i>	Nº	50		
Carried to collection					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	№	25		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i> 	Nº	18		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	<u>New Full Mass Colored Ceramic for Floors</u> Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required				
9.2.1.1	Supply and install anti skid colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	5		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.2	<u>New Glazed Colored Ceramic for Walls</u>				
9.2.2.1	Supply and install glazed colored ceramic for walls Include Ceramic Corner (first choice) <i>Rate or Lump Sum in Words:</i>	m ²	5		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	1,100		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	800		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1.2	FE-02 (4.5Kg C02) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
4- FIRE PROTECTION	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	12		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	24		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Chekka School	
 * Total Amount Carried to General Summary	
.....	
.....	
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Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

General Summary Volume 3-3 (5 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
ضهر العين الرسمية المختلطة - 697	697 Daher Al Ein mixed				
جبران مكاري الرسمية - 704	704 Jebran Makari Anfeh				
مدرسة كفر عا الأولى المختلطة الرسمية - 725	725 Kferaaka mixed				
ثانوية كفر حاتا الرسمية - 730	730 Kferhata				
مدرسة شكا المتوسطة الرسمية - 748	748 Chekka				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 2

Tripoli Package

Volume 3- 4 (5 of 25 Schools)

Bill of Quantities

752- Al Heri Mixed Public School

Bill of Quantities

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Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	No	6		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be lead-free and Low VOC (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	100		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	50		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

8- DOORS AND WINDOWS

9- FINISHES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	№	10		

Carried to collection

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Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

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3- GENERAL LIGHTING INSTALLATIONS

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Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Heri Mixed School	
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755-Batroun Official School for Girls

Bill of Quantities

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Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as ls per the Engineer instructions <i>Rate or Lump Sum in Words:</i> 		1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.3	Rehabilitate existing steel guard house <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u>				
	Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include:				
	- Material and labors				
	- All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.)				
	- The frame for any width (Steel, Wood, etc.)				
	- Paint as follows:				
	- Anti rust layers				
	- Putty + one layer of undercoat				
	- Three layers of epoxy paint				
	- Apply and fix 6mm wired clear glass				
	- View Permitting glass opening where needed				
	- remove the existing timber panels				
	- repair the edges				
	- The Contractor should submit shop drawings				
	- All needed items as the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	No	20		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i>	№	17		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	5		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>.....	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	900		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	500		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	1		
10.2	<u>Classroom Specialties</u>				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site Cost to include: - (3600mm x 1200mm) final dimensions as per site limitation - Materials and labors - Felt marker pens and eraser (12 marker pens + 2 erases for each white board) - Stainless Steel screws - Remove the existing board - All needed works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	Nº	2		
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer <i>Rate or Lump Sum in Words:</i> 	m	1		
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i> 	m ²	1		

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Amount (US \$)

3- Concrete	
5- METAL WORKS	
8- DOORS AND WINDOWS	
9- FINISHES	
10- SPECIALTIES	

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Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.1	FE-01 (6Kg powder) <i>Rate or Lump Sum in Words:</i>	Nº	1		
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

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<u>Page №</u>	<u>Amount (US \$)</u>
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2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.1	TYPE C1: Twin T8 LED Tube, surface-mount luminaire for interior, 40W, 4000K, 4700Lm. Polycarbonate, light grey, with injected polyurethane double gasket and clear UV stabilized polycarbonate cover, $\cos \phi \geq 0.9$ <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	No	1		

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Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

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3- GENERAL LIGHTING INSTALLATIONS

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8- SOLAR SYSTEM

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<u>Description</u>	<u>Amount (US \$)</u>
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756 -Stephen Attieh Intermediate Mixed Public School

Bill of Quantities

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Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <u>Rate or Lump Sum in Words:</u>	LS	1		

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Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i> 	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.3	Rehabilitate existing steel guard house <i>Rate or Lump Sum in Words:</i>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings - Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				
5.3.1	Rehabilitate and strength steel sheds and replace existing sheet by insulated sandwich panel <i>Rate or Lump Sum in Words:</i> 	m ²	10		
5.3.4	Rehabilitate and strength steel sheds and replace existing sheet by PVC sheet <i>Rate or Lump Sum in Words:</i> 	m ²	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	25		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	100		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	200		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i> 	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				
10.5	<u>Internal Curtains</u>				
	Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening	m ²	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.1	FE-01 (6Kg powder) <i>Rate or Lump Sum in Words:</i>	Nº	1		
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	
	
	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.1	TYPE C1: Twin T8 LED Tube, surface-mount luminaire for interior, 40W, 4000K, 4700Lm. Polycarbonate, light grey, with injected polyurethane double gasket and clear UV stabilized polycarbonate cover, $\cos \phi \geq 0.9$ <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Stephen Attieh Intermediate Mixed Public School	
 * Total Amount Carried to General Summary	
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763-Aabrine Mixed Public School

Bill of Quantities

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Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
					<u>Carried to collection</u>

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	12		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	24		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				
	- Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	600		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	300		

Carried to collection

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Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

8- DOORS AND WINDOWS

9- FINISHES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	20		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	7		

Carried to collection

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Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

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Total Carried to Summary

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Summary

<u>Description</u>	<u>Amount (US \$)</u>
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 * Total Amount Carried to General Summary	
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764-Aabrine High School

Bill of Quantities

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Bill № 4: Electrical Engineering Services

Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	25		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	8		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				
	- Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i> 				
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be lead-free and Low VOC (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings	m ²	160		
	<i>Rate or Lump Sum in Words:</i> 				
9.5.1.4	Oil Paints for old walls and ceilings	m ²	160		
	<i>Rate or Lump Sum in Words:</i> 				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 4: Electrical Engineering Services	
* Total Amount of Works for Aabrine High School	
* Total Amount Carried to General Summary	
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Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

General Summary Volume 3-4 (5 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
الهرى المختلطة الرسمية - 752	752 AL Heri				
البترون الرسمية للبنات -755	755 Al Batroun for girls				
مدرسة اسطفان عطية المتوسطة الرسمية المختلطة - 756	756 Estfan Aatyah				
عبرين الرسمية المختلطة -763	763 Aabrine mixed				
ثانوية عبرين الرسمية -764	764 Aabrine high school				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 2

Tripoli Package

Volume 3- 5 (5 of 25 Schools)

Bill of Quantities

1377-Tripoli Al-Qobbeh Second Official Mixed High School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	35		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.1	<u>Timber Doors</u> Supply and install flush timber door as per drawings with laminated plastic facing and the door should have 10cm width frame between the plywood and fill with timber beads by tongue and groove each 5cm, and the door edges should behead wood and fixed by tongue and groove frames should be as specified, with fixed glass panel vision window, and similar to existing, and to the Engineer's instructions - Works included, all accessories and fittings, pre-painting and finishing paint sides of doors and box frames. - All works should be done as per the Engineer instructions				
8.1.1.5	Provide new toilet doors with related accessories as per specifications <i>Rate or Lump Sum in Words:</i>	No	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	Rehabilitate the Existing Timber Doors As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i> 	№	90		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	10		
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Remove loose and other deteriorated materials prior to the new repair. - Take special care not to damage the adjacent original materials. - Prepare mortar joints for installation of lateral reinforcement where it is required. - Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. - Mix mortar with minimal amount of water (potable) prior to use. - All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas				
	Work to include:				
	- Remove all debris as specified				
	- All materials and labors				
	- Difference tiles (shapes thickness, dimension, pattern) as needed.				
	- Cutting and repair				
	- Grouting				
	- Polish and rubbing				
	- All needed items as per Engineer comments and complete to Engineer approval.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				
					

Carried to collection

Collection

Page №

Amount (US \$)

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

4- FIRE PROTECTION

Total Carried to Summary

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
 * Total Amount of Works for Tripoli Al Qobbeh Mixed High School	
 * Total Amount Carried to General Summary	
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1403 - Wadi el Nahleh public mixed school

Bill of Quantities

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Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
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3 CONCRETE

Reinforced Existing Columns and beams

Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm² for cracked beams, repair rust steel and topping concrete.

Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions

Rate or Lump Sum in Words:

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Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <u>Rate or Lump Sum in Words:</u>	m	4		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories	Nº	22		
	Rate or Lump Sum in Words:				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i> 	Nº	40		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	100		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	250		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u>				
	Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories				
	The mirror should be placed on 3mm thick plywood from the back				
	All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction)	No	3		
	<i>Rate or Lump Sum in Words:</i>				
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	No	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i> 	m ²	20		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	4		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	74		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

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Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Wadi El Nahleh Public Mixed School	
 * Total Amount Carried to General Summary	
.....	
.....	
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1521 - Al Baddawi Intermediate school for girls BOQ

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Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u>				
	Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include:				
	- Material and labors				
	- All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.)				
	- The frame for any width (Steel, Wood, etc.)				
	- Paint as follows:				
	- Anti rust layers				
	- Putty + one layer of undercoat				
	- Three layers of epoxy paint				
	- Apply and fix 6mm wired clear glass				
	- View Permitting glass opening where needed				
	- remove the existing timber panels				
	- repair the edges				
	- The Contractor should submit shop drawings				
	- All needed items as the Engineer instructions				
8.1.1	<u>Timber Doors</u>				
	Supply and install flush timber door as per drawings with laminated plastic facing and the door should have 10cm width frame between the plywood and fill with timber beads by tongue and groove each 5cm, and the door edges should behead wood and fixed by tongue and groove frames should be as specified, with fixed glass panel vision window, and similar to existing, and to the Engineer's instructions				
	- Works included, all accessories and fittings, pre-painting and finishing paint sides of doors and box frames.				
	- All works should be done as per the Engineer instructions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	11		

Carried to collection

Collection

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Amount (US \$)

8- DOORS AND WINDOWS

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

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Amount (US \$)

5- SANITARY FIXTURES

Total Carried to Summary

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
	
* Total Amount of Works for Al Baddawi Intermediate School for Girls	
* Total Amount Carried to General Summary	
	
	
	

1606 -Ibn khaldoun public school for girls

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Bill № 2: Civil and Architectural Works

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i> 	ls	1		
				<u>Carried to collection</u>	

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	15		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	23		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <u>Rate or Lump Sum in Words:</u>	№	46		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	150		
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Remove loose and other deteriorated materials prior to the new repair. - Take special care not to damage the adjacent original materials. - Prepare mortar joints for installation of lateral reinforcement where it is required. - Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. - Mix mortar with minimal amount of water (potable) prior to use. - All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i> 				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	800		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	10		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	10		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	10		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <u>Rate or Lump Sum in Words:</u>	Nº	2		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	№	1		

Carried to collection

Collection

Page №

Amount (US \$)

3- Concrete	
5- METAL WORKS	
8- DOORS AND WINDOWS	
9- FINISHES	
10- SPECIALTIES	

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	№	24		
<u>Carried to collection</u>					

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Ibn Khaldoun Public School for Girls	
 * Total Amount Carried to General Summary	

1636 - Al Baddawi Secondary School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

[illegible]

Collection

Page №

Amount (US \$)

8- DOORS AND WINDOWS

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.1	<u>General Mechanical Requirements</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
* Total Amount of Works for Al Baddawi Secondary School	
* Total Amount Carried to General Summary	
.....	
.....	
.....	

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

General Summary Volume 3-5 (5 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
ثانوية طرابلس القبة المختلطة الثانية الرسمية- 1377	1377 AL Kobbbeh second				
وادي النحلة الرسمية المختلطة -1403	1403 Wadi AL Nahlet mixed				
متوسطة البداوي الثانية الرسمية للبنات -1521	1521 Baddaoui girls				
مدرسة ابن خلدون الرسمية للبنات - 1606	1606 Ibn Khaldoun girls				
ثانوية البداوي الرسمية للبنات - 1636	1636 Baddaoui high school				
TOTAL					

Total Amount Carried to Grand Summary

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters
Batch # 2 - LOT 2
Grand Summary

nr.	Description	BOQ- Cost Estimate U.S.D
1	Volume 3 - 1 (5 schools)	
2	Volume 3 - 2 (5 schools)	
3	Volume 3 - 3 (5 schools)	
4	Volume 3 - 4 (5 schools)	
5	Volume 3 - 5 (5 schools)	
	Total	